CLAIMS

1   1. A computer implemented method for rolling back a
2 system state after a modification failure, the method
3 comprising the steps of:
4   a rollback manager creating a restore point on a
5   computer;
6   the rollback manager storing a reboot indicator
7   in non-revertible storage;
8   the rollback manager monitoring the reboot
9   indicator to detect an unexpected reboot
10   during deployment of a modification; and
11   the rollback manager configuring the computer
12   responsive to the reboot indicator.

1   2. The method of claim 1 wherein the rollback manager
2 configuring the computer responsive to the reboot indicator
3 further comprises:
4   responsive to the reboot indicator indicating
5   that at least one unexpected reboot occurred
6   during the deployment of the modification,
7   the rollback manager rolling back the system
8   state of the computer according to the
9   restore point.

1   3.   The method of claim 1 wherein the rollback manager

2 creating a restore point on a computer further comprises:

3   the rollback manager auditing the computer and

4   storing in non-revertible storage

5   information concerning at least one item

6   from a group of items consisting of:

7   at least one currently executing system

8   process;

9   at least one currently executing user

10   process; and

11   at least one currently open listening port.

1   4.   The method of claim 3 wherein the rollback manager

2 configuring the computer responsive to the reboot indicator

3 further comprises:

4   responsive to the reboot indicator indicating

5   that no unexpected reboots occurred during

6   the deployment of the modification, the

7   rollback manager re-auditing the computer,

8   and comparing re-audit information to the

9   stored audit information; and

10   the rollback manager performing an appropriate

11   action responsive to results of the

12   comparison.

1   5.   The method of claim 4 wherein the rollback manager

2 performing an appropriate action responsive to the

3 comparison further comprises:

4   responsive to the comparison revealing that at

5   least one item from the initial audit is no

6   longer present on the computer, the rollback

7   manager rolling back the system state of the

8   computer according to the restore point.

1   6.   The method of claim 4 wherein the rollback manager

2 performing an appropriate action responsive to the

3 comparison further comprises:

4   responsive to the comparison revealing that all

5   items from the initial audit are still

6   present on the computer, the rollback

7   manager deeming the computer stable.

1   7.   The method of claim 6 wherein the rollback manager

2 deeming the computer stable further comprises:

3   the rollback manager clearing the reboot

4   indicator.

1   8.   The method of claim 6 further comprising:

2   the rollback manager deploying rollback

3   capability on the computer; and

4   the rollback manager storing, in non-revertible

5   storage, information concerning deployment

6   of the rollback capability on the computer;

7   wherein the rollback manager deeming the

8   computer stable further comprises the

9   rollback manager disabling the deployed

10   rollback capability.

1   9.   The method of claim 4 further comprising:

2   the rollback manager waiting for a specified

3   period of time before re-auditing the

4   computer, and comparing re-audit information

5   to the stored audit information.

1   10. The method of claim 4 further comprising:

2   the rollback manager repeating the following

3   steps a specified number of times at

4   specified intervals:

5   responsive to the reboot indicator

6   indicating that no unexpected reboots

7   occurred during the deployment of the

8   modification, the rollback manager re-

9   auditing the computer, and comparing

10	re-audit information to the stored
11	audit information; and
12	the rollback manager performing an
13	appropriate action responsive to
14	results of the comparison.

1	11. The method of claim 1 further comprising:
2	the rollback manager configuring the reboot
3	indicator to indicate that a modification is
4	to be deployed.

1	12. The method of claim 11 further comprising:
2	the rollback manager configuring the reboot
3	indicator to indicate that the deployment of
4	the modification is expected to reboot the
5	computer.

1	13. The method of claim 12 wherein the rollback
2	manager configuring the reboot indicator to indicate that
3	the deployment of the modification is expected to reboot
4	the computer further comprises:
5	the rollback manager monitoring deployment of the
6	modification; and

7   the rollback manager configuring the reboot

8   indicator responsive to the deployment

9   requesting a reboot of the computer.

1   14.   The method of claim 1 wherein the rollback

2   manager monitoring the reboot indicator to detect an

3   unexpected reboot during deployment of a modification

4   further comprises:

5   the rollback manager reading the reboot indicator

6   after a reboot of the computer, before the

7   booting of an operating system;

8   the rollback manager determining, based on the

9   reboot indicator, whether the reboot was

10   legitimate.

1   15.   The method of claim 14 further comprising:

2   the rollback manager updating the reboot

3   indicator to indicate the occurrence of the

4   reboot.

1   16.   The method of claim 14 further comprising:

2   responsive to determining that the reboot was not

3   legitimate, the rollback manager rolling

4   back the system state of the computer

5   according to the restore point.

1   17.   The method of claim 1 wherein the reboot

2   indicator comprises at least one attribute from a group of

3   attributes consisting of:

4   an indication of whether a reboot is expected;

5   an indication of a specific number of reboots

6   that are expected;

7   a counter of executed reboots; and

8   an indication of whether a modification is being

9   deployed.

1   18.   The method of claim 1 further comprising:

2   the rollback manager deploying rollback

3   capability on the computer; and

4   the rollback manager storing, in non-revertible

5   storage, information concerning deployment

6   of the rollback capability on the computer.

1   19.   The method of claim 18 wherein the rollback

2   manager configuring the computer responsive to the reboot

3   indicator further comprises:

4   the rollback manager rolling back the system

5   state of the computer according to the

6   restore point; and

7   the rollback manager disabling the deployed

8   rollback capability.

1   20.   A computer readable medium containing a computer

2 program product for rolling back a system state after a

3 modification failure, the computer program product

4 comprising:

5   program code for creating a restore point on a

6   computer;

7   program code for storing a reboot indicator in

8   non-revertible storage;

9   program code for monitoring the reboot indicator

10   to detect an unexpected reboot during

11   deployment of a modification; and

12   program code for configuring the computer

13   responsive to the reboot indicator.

1   21.   The computer readable medium of claim 20 further

2 comprising:

3   program code for, responsive to the reboot

4   indicator indicating that at least one

5   unexpected reboot occurred during the

6   deployment of the modification, rolling back

7   the system state of the computer according

8   to the restore point.

1   22. The computer readable medium of claim 20 further

2   comprising:

3   program code for auditing the computer and

4   storing in non-revertible storage

5   information concerning at least one item

6   from a group of items consisting of:

7   at least one currently executing system

8   process;

9   at least one currently executing user

10   process; and

11   at least one currently open listening port.

1   23. The computer readable medium of claim 22 further

2   comprising:

3   program code for, responsive to the reboot

4   indicator indicating that no unexpected

5   reboots occurred during the deployment of

6   the modification, re-auditing the computer,

7   and comparing re-audit information to the

8   stored audit information; and

9   program code for performing an appropriate action

10   responsive to results of the comparison.

1   24. The computer readable medium of claim 23 further

2 comprising:

3   program code for, responsive to the comparison

4   revealing that at least one item from the

5   initial audit is no longer present on the

6   computer, rolling back the system state of

7   the computer according to the restore point.

1   25. The computer readable medium of claim 23 further

2 comprising:

3   program code for, responsive to the comparison

4   revealing that all items from the initial

5   audit are still present on the computer,

6   deeming the computer stable.

1   26. A computer system for rolling back a system state

2 after a modification failure, the computer system

3 comprising:

4   a creation module, configured to create a restore

5   point on a computer;

6   a storage module, configured to store a reboot

7   indicator in non-revertible storage, the

8   storage module being communicatively coupled

9   to the creation module;

10   a monitoring module, configured to monitor the

11   reboot indicator to detect an unexpected

12   reboot during deployment of a modification,

13   the monitoring module being communicatively

14   coupled to the storage module; and

15   a computer configuration module, configured to

16   configure the computer responsive to input

17   from the monitoring module concerning the

18   reboot indicator, the computer configuration

19   module being communicatively coupled to the

20   monitoring module.

1   27. The computer system of claim 26 further

2 comprising:

3   a rollback module, configured to roll back the

4   system state of the computer according to

5   the restore point, responsive to input from

6   the monitoring module indicating that at

7   least one unexpected reboot occurred during

8   the deployment of the modification, the

9   rollback module being communicatively

10   coupled to monitoring module and to the

11   computer configuration module.

1   28.   The computer system of claim 26 further

2   comprising:

3   an auditing module, configured to audit the

4   computer, the auditing module being

5   communicatively coupled to monitoring module

6   and to the storage module; wherein

7   the storage module is further configured to

8   store, in non-revertible storage,

9   information concerning at least one item

10   from a group of items consisting of:

11   at least one currently executing system

12   process;

13   at least one currently executing user

14   process; and

15   at least one currently open listening port.

1   29.   The computer system of claim 28 wherein:

2   the auditing module is further configured to re-

3   audit the computer, responsive to input from

4   the monitoring module indicating that no

5   unexpected reboots occurred during the

6   deployment of the modification; the computer

7   system further comprising

8   a comparison module, configured to compare re-

9   audit information to the stored audit

10   information, the comparison module being

11   communicatively coupled to the auditing

12   module and to the computer configuration

13   module; wherein

14   the computer configuration module is further

15   configured to perform an appropriate action

16   responsive to input from the comparison

17   module.

1   30.   The computer system of claim 29 wherein:

2   the rollback module is further configured to roll

3   back the system state of the computer

4   according to the restore point, responsive

5   to input from the comparison module

6   indicating that at least one item from the

7   initial audit is no longer present on the

8   computer, wherein the rollback module is

9   communicatively coupled to the comparison

10   module.

1   31.   The computer system of claim 29 further

2   comprising:

3   a stability deeming module, configured to deem

4   the computer stable, responsive to input

5   from the comparison module indicating that

6   all items from the initial audit are still

7   present on the computer, the stability

8   deeming module being communicatively coupled

9   to the comparison module.

1   32. A computer implemented method for auditing a

2 computer system state, the method comprising the steps of:

3   a rollback manager auditing the computer and

4   storing in non-revertible storage

5   information concerning at least one item

6   from a group of items consisting of:

7   at least one currently executing system

8   process;

9   at least one currently executing user

10   process; and

11   at least one currently open listening port.